

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently Amended) A deformable mirror holder comprising a body with a receiving portion for receiving a deformable mirror having a plurality of mirror electrodes formed on a surface, and wherein the receiving portion is defined by a passive flexible support structure such that, in use, the support structure provides a supporting surface to the mirror,

wherein the support structure includes a plurality of discrete flexible support elements that are disposed in an equi-spaced relationship in a circular arrangement, and wherein each support structure is arranged to be in contact with one or more of the mirror electrodes.

2. (Currently Amended) [[A]] The deformable mirror holder as claimed in claim 1, wherein the ~~support structure comprises a plurality of discrete flexible support elements~~ are spatially arranged to support the mirror substrate from below, with each of the support elements having an end shaped to provide support to the mirror substrate and a flexible portion that connects the element's end to the holder's body.

3. (Withdrawn) [[A]] The deformable mirror holder as claimed in claim 2, wherein at least one of the support elements is generally L-shaped such that one leg

of the L-shape provides the flexible portion and the other leg of the L-shape provides the supporting surface of the element's end.

4. (Cancelled)

5. (Currently Amended) [[A]] The deformable mirror holder as claimed in claim 2, wherein, in use, each of the support elements is positioned so as to be in supportive contact with a different mirror electrode.

6. (Currently Amended) [[A]] The deformable mirror holder as claimed in claim 2, wherein the support elements are formed of compliant epoxy/rubber material.

7. (Withdrawn) [[A]] The deformable mirror holder as claimed in Claim 2, wherein the end-shaped supporting portion of each element is formed of compliant epoxy/rubber material and the remainder portion of each element is formed of metal material.

8. (Currently Amended) A deformable mirror holder ~~as claimed in claim 2,~~  
comprising a body with a receiving portion for receiving a deformable mirror wherein  
the receiving portion is defined by a passive flexible support structure such that, in  
use, the support structure provides a supporting surface to the mirror,  
wherein the support structure comprises a plurality of discrete flexible support  
elements spatially arranged to support the mirror substrate from below, with each of

the support elements having an end shaped to provide support to the mirror substrate and a flexible portion that connects the element's end to the holder's body, and

wherein the support elements are formed of a conducting compliant foam such that they permit electrical connection to a number of mirror electrodes.

9. (Currently Amended) ~~[[A]]~~ The deformable mirror holder as claimed in claim 2, wherein the support elements are integrally formed as part of the holder body.

10. (Currently Amended) ~~[[A]]~~ The deformable mirror holder as claimed in claim 6, wherein the compliance of compliant material selected to form at least a portion of each of the support elements is adjusted according to ~~[[the]]~~ an established position of the support element in the support structure.

11. (Currently Amended) ~~[[A]]~~ The deformable mirror holder as claimed in claim 10, wherein the compliance of the selected compliant material varies according to the distance of the respective support element from the edge of a supported mirror substrate.

12. (Currently Amended) ~~[[A]]~~ The deformable mirror holder as claimed in claim 6, wherein the compliance of each of the support elements is adjusted according to the position of the support element in the support structure.

13. (Currently Amended) [[A]] The deformable mirror holder as claimed in claim 12, wherein the compliance of each of the support elements is adjusted by varying the length of the support element.

14. (Currently Amended) [[A]] The deformable mirror holder as claimed in claim 12, wherein the compliance of each of the support elements is adjusted by varying the cross-sectional area of the support element.

15. (Currently Amended) [[A]] The deformable mirror holder as claimed in claim 12, wherein the compliance of each of the support elements is adjusted by varying the compliance of the compliant material used to form the support element.

16. (Withdrawn) [[A]] The deformable mirror holder as claimed in claim 1, wherein the support structure comprises a generally solid unitary structure with compliant characteristics, which unitary structure is arranged to extend across the entire mirror substrate surface for support thereof from below.

17. (Withdrawn) [[A]] The deformable mirror holder as claimed in claim 16, wherein the unitary structure is formed of epoxy/rubber material.

18. (Withdrawn) [[A]] The deformable mirror holder as claimed in claim 16, wherein the unitary structure includes a number of hole sections for permitting access to a number of mirror electrodes when in use.

19. (Withdrawn) [[A]] The deformable mirror holder as claimed in claim 16, wherein the unitary structure includes a number of metallic interconnections permitting connection to a number of mirror electrodes when in use, which metallic interconnections are arranged to respond to the deformation of the unitary structure in use.

20. (Withdrawn) [[A]] The deformable mirror holder as claimed in claim 16, wherein the compliance of the unitary structure varies according to the distance from the edge of the unitary structure.

21. (Withdrawn) [[A]] The deformable mirror holder as claimed in claim 20, wherein the unitary structure comprises a plurality of discrete annuli each composed of a compliant material having a different compliance.

22. (Withdrawn) [[A]] The deformable mirror holder as claimed in claim 20, wherein the thickness of the unitary structure varies according to distance from the edge of the unitary structure.

23. (Withdrawn) [[A]] The deformable mirror holder as claimed in claim 19, wherein the unitary structure is composed of a compliant material having substantially uniform compliance and a thickness of the unitary structure varies according to distance from the edge of the unitary structure.

24. (Withdrawn) [[A]] The deformable mirror in combination with the deformable mirror holder as claimed in claim 19.

25. (Currently Amended) [[A]] The deformable mirror comprising a reflective surface provided on a substrate and a layer of deformable material attached to the substrate that is operable to deform the mirror, in combination with a deformable mirror holder as claimed in claim 1.

26. (Withdrawn) [[A]] The deformable mirror in combination with a deformable mirror holder as claimed in claim 25 including a cooling system.

27. (Withdrawn) [[A]] The deformable mirror in combination with a deformable mirror holder as claimed in claim 26 wherein said cooling system includes a number of interconnecting conduits which are joined to form a continuous through-passage, enabling coolant to be admitted and circulated therethrough.

28. (Withdrawn) [[A]] The deformable mirror in combination with a deformable mirror holder as claimed in claim 24 including a tip-tilt stage.

29. (Canceled)

30. (Canceled)